

In the claims:

Please amend the claims as follows:

Claims 1-7. (Withdrawn)

Claim 8. (Currently Amended) A method for screening for a gene encoding a polypeptide that converts a ligand precursor into a ligand, the method comprising

(A) introducing a test gene, wherein the test gene comprises a sequence encoding a polypeptide to be tested for the ability to convert an inactive ligand precursor into an active ligand, into a cell, wherein the cell comprises ~~comprising~~ (i) a vector comprising a nucleic acid sequence encoding a nuclear receptor and (ii) a vector comprising a binding sequence to which the nuclear receptor binds and, located downstream of the binding sequence, a nucleic acid sequence encoding a reporter molecule,

(B) contacting a ligand precursor with the cell into which the test gene is introduced,

(C) evaluating the activity of the reporter molecule relative to the activity of the reporter molecule in the absence of the test gene, an increase in activity indicating that the test gene encodes a polypeptide that converts the ligand precursor into a ligand that activates the nuclear receptor; and

(D) isolating the test gene from the cell if the cell shows an increase in reporter molecule activity.

Claim 9. (Currently Amended) A method for determining whether or not a test gene encodes a polypeptide that converts a ligand precursor into a ligand, the method comprising

(A) introducing a test gene, wherein the test gene comprises a sequence encoding a polypeptide to be tested for the ability to convert an inactive ligand precursor into an active ligand, into a cell, wherein the cell comprises ~~comprising~~ (i) a vector comprising a nucleic acid sequence encoding a nuclear receptor and (ii) a vector comprising a binding sequence to which the nuclear receptor binds and, located downstream of the binding sequence, a nucleic acid sequence encoding a reporter molecule,

(B) contacting a ligand precursor with the cell into which the test gene is introduced, and

(C) evaluating the activity of the reporter molecule relative to the activity of the reporter molecule in the absence of the test gene, an increase in activity indicating that the test gene encodes a polypeptide that converts the ligand precursor into a ligand that activates the nuclear receptor.

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Claim 10. (Currently Amended) A method for screening for a gene encoding a polypeptide that converts an inactive form of vitamin D3 into an active form, the method comprising

(A) introducing a test gene, wherein the test gene comprises a sequence encoding a polypeptide to be tested for the ability to convert an inactive form of vitamin D3 into an active form, into a cell, wherein the cell comprises ~~comprising~~ (i) a vector comprising a nucleic acid sequence encoding a vitamin D receptor and (ii) a vector comprising a binding sequence of the vitamin D receptor and, located downstream of the binding sequence, a nucleic acid sequence encoding a reporter molecule,

(B) contacting an inactive form of vitamin D3 with the cell into which the test gene is introduced,

(C) evaluating the activity of the reporter molecule relative to the activity of the reporter molecule in the absence of the test gene, an increase in activity indicating that the test gene encodes a polypeptide that converts an inactive form of vitamin D3 into an active form that activates the vitamin D receptor, and

(D) isolating the test gene from the cell if the cell shows an increase in reporter molecule activity.

Claim 11. (Currently Amended) A method for determining whether or not a test gene encodes a polypeptide that converts an inactive form of vitamin D3 into an active form, the method comprising

(A) introducing a test gene, wherein the test gene comprises a sequence encoding a polypeptide to be tested for the ability to convert an inactive form of vitamin D3 into an active

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form, into a cell, wherein the cell comprises ~~comprising~~ (i) a vector comprising a nucleic acid sequence encoding a vitamin D receptor and (ii) a vector comprising a binding sequence to which vitamin D receptor and, located downstream of the binding sequence, a nucleic acid sequence encoding a reporter binds molecule,

(B) contacting an inactive form of vitamin D3 with the cell into which the test gene is introduced, and

(C) evaluating the activity of the reporter molecule relative to the activity of the reporter molecule in the absence of the test gene, an increase in activity indicating that the test gene encodes a polypeptide that converts an inactive form of vitamin D3 into an active form that activates the vitamin D receptor.

Claims 12-27. (Withdrawn)